

Patent claims

1. A turbomachine, in particular an axial-flow compressor (5)  
for a gas turbine (1),  
5 having an axially displaceable rotor (3) and  
having an annular duct which is provided in a casing and forms  
an annular flow duct (24), narrowing in the axial direction,  
between a rotationally fixed outer guide surface (21, 22) and  
an inner guide surface (21, 22) arranged on the rotor (3),  
10 having at least one fixed ring (15) of guide profiles (28),  
which is arranged in the annular duct, and having at least one  
ring (17) of moving profiles (27) fastened to the rotor, said  
profiles extending in each case between a platform (25) and an  
exposed end, opposite the platform (25), of a moving or guide  
15 blade (14, 16), respectively,  
the end of each moving and guide blade (14, 16) being opposite  
a respective axial section (A) of one of the two guide surfaces  
(21, 22), with a respective radial gap (23) being formed,  
characterized in that the size of each radial gap (23) between  
20 the end of each moving or guide blade (14, 16) and the opposite  
axial section (A) of the boundary surface (36, 37) is constant  
at least over the displacement distance of the rotor (3), and  
the radial gap (23) runs parallel to the rotation axis (2) of  
the rotor (3).

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2. The turbomachine as claimed in claim 1, characterized in  
that the outer guide surface (21) is formed at least partly by  
the top side of the platforms (25) of the guide blades (14),  
this top side facing the guide profile (28).

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3. The turbomachine as claimed in claim 1 or 2, characterized in that the inner guide surface (22) is formed at least partly by the top side of the platforms (25) of the moving blades (16), this top side facing the moving profile (27).

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4. The turbomachine as claimed in claims 2 and 3, characterized in that the top sides of the platforms (25) of the moving and guide blades (14, 16), respectively, are inclined in the axial direction relative to the displacement  
10 direction V, so that the flow duct (24) narrows in the axial direction.

5. The turbomachine as claimed in at least one of the preceding claims, characterized in that, in the axial sections  
15 in which guide profiles are arranged, the inner guide surface (22) runs cylindrically and the outer guide surface runs inclined, in particular conically, relative to the rotation axis.

20 6. The turbomachine as claimed in at least one of the preceding claims, characterized in that, in the axial sections in which moving profiles are arranged, the outer guide surface (21) runs cylindrically and the inner guide surface runs inclined, in particular conically, relative to the rotation  
25 axis.

7. The turbomachine as claimed in claims 5 and 6, characterized in that the sections are arranged alternately as viewed in the direction of flow.

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8. The turbomachine as claimed in at least one of the preceding claims, characterized in that

the outer guide surface (21) and that section A of the outer guide surface (21) which is opposite the ends of the moving blade (16) of a moving-blade ring (17) are formed by means of a guide ring (30).

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9. The turbomachine as claimed in one of the preceding claims, characterized in that the turbomachine is designed as an axial-flow compressor (5) of a gas turbine (1).